



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/572,801

03/22/2006

Takafumi Iseri

ISER3001/GAL

4909

23364 7590 07/15/2008

BACON & THOMAS, PLLC

625 SLATERS LANE

FOURTH FLOOR

ALEXANDRIA, VA 22314-1176

EXAMINER

RAMDHANIE, BOBBY

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

07/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/572,801	<b>Applicant(s)</b> ISERI ET AL.	
	<b>Examiner</b> BOBBY RAMDHANIE	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-3 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments, see Remarks, filed 04/10/2008, with respect to the Double Patenting Rejections have been fully considered and are persuasive. The rejections toward Double Patenting have been withdrawn.

### ***Response to Amendment***

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanegasaki et al in view of Kricka et al (US5744366).

Art Unit: 1797

6. Applicants' claims are toward an apparatus.

7. Regarding Claims 1-3, Kanegasaki et al discloses a cell observation apparatus comprising: A). cell observation chamber comprising therein 1). A pair of wells and B). A flow path for communication between said wells and being arranged in such a manner that cells in cell suspension stored in one of said can react with chemotactic factor containing solution stored in the other of said wells to move from one to the other of said wells through said flow path (See Page 2 Right Column under 2. Materials and Method; Second Paragraph); and C). Optical observation means for observing said cells moving through said flow path optically from outside said cell observation chamber, said optical observation means comprising an 1). Objective lens arranged vertically upward, an optical axis extending horizontally and 2). A light source illuminating, through said window, said cells moving through said flow path (See Page 2 Right Column under 2. Materials and Method; Second Paragraph – microscope and illumination system). Kanegasaki et al does not disclose D). A casing housing said cell observation chamber and said optical observation means, said optical observation means being housed in said casing below said cell observation chamber with said objective lens near and below said window. Kricka et al discloses a cell observation apparatus comprising: A). cell observation chamber comprising therein 1). A pair of wells (See Figure 1 Items 32 & 22) and B). A flow path for communication between said wells and being arranged in such a manner that cells in cell suspension stored in one of said wells can react with chemotactic factor containing solution stored in the other of said wells to move from one to the other of said wells through said flow path (See Figure 1 Item 20); and C). Optical

observation means for observing said cells moving through said flow path optically from outside said cell observation chamber, said optical observation means comprising an 1). Objective lens arranged vertically upward, an optical axis extending horizontally (See Figure 1 Item 70), through said window, said cells moving through said flow path. Kricka et al does not disclose D). A casing housing said cell observation chamber and said optical observation means, said optical observation means being housed in said casing below said cell observation chamber with said objective lens near and below said window. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kanegasaki et al with a casing to hold all of the components of the entire cell observation apparatus because according to Kricka et al, the potential of using very small devices for the analyses of biological fluids, cells, and microorganisms has heretofore remained largely unexplored. Current larger-scale analytical techniques utilized for the detection or analysis of microorganisms and cells are rarely automated, generally not portable, and can be slow and cumbersome. As a result, a need exists for convenient and rapid systems for clinical, laboratory and field assays. Adding a casing to contain the entire cell observation apparatus (if not just the cell observation chamber and optical observation means) to protect the instruments to be portable for use in the field assays.

8. Alternatively, it would have been obvious to one of ordinary skill in the art at the time the invention was made to place a casing to surround the cell observation chamber and optical observation means to remove stray light from interfering with fluorescence measurements during experiments.

9. For Claim 2, the combination of Kanegasaki et al and Kricka et al discloses the cell observation apparatus according to Claim 1, wherein said optical observation means comprises an optical system on a stage movable in an XY two-dimensional plane (See Kanegasaki et al; Page 6, Left Column 2.6 Monitoring of migrating cell and chemotaxis), said optical system consisting of said objective lens, a light source, and a camera, and a plurality of reflecting mirrors, a half mirror (See Kanegasaki et al; Page 6, Left Column 2.6 Monitoring of migrating cell and chemotaxis & Page 3; 2.3 Experimental Evaluation of the gradient formation and theoretical determination of the diffusion process of a chemokine in the microchannel; 1st Paragraph, IX70 is a microscope which contains the beam splitter, and plurality of reflecting mirrors), and said light source generating light which illuminates said cells, moving through said flow path, through said objective lens and through said window to allow said camera to image said cells illuminated by said light (See Page 2 Right Column under 2. Materials and Method; Second Paragraph – microscope and illumination system or Page 3; 2.3 Experimental Evaluation of the gradient formation and theoretical determination of the diffusion process of a chemokine in the microchannel; 1st Paragraph, IX70 is a microscope is used with a mercury/xenon arc lamp for illuminating the cell chamber).

10. For Claim 3, the combination of Kanegasaki et al and Kricka et al discloses the cell observation apparatus according to claim 1, except further comprising temperature control means for controlling the temperature of the atmosphere in said casing and the main body of said casing to be a predetermined temperature. Kricka et al does however disclose the use of in vitro fertilization chips, chips which need to be maintained at a

specific temperature and as a result, are stored in a small portable incubator that is required for in vitro fertilization. Kricka et al further discloses having to heat the chip during a 24 hour incubation period before being inspected using a microscope. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the casing to include a temperature control for maintaining the temperature during observation because according to Kricka et al, one way to prevent distress to the developing embryo is to view the eggs directly through the top lid of the incubator (See Column 17 lines 18-50).

#### ***Telephonic Inquiries***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBBY RAMDHANIE whose telephone number is (571)270-3240. The examiner can normally be reached on Mon-Fri 8-5 (Alt Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bobby Ramdhanie, Ph.D./  
Examiner, Art Unit 1797  
/B. R./

/Walter D. Griffin/  
Supervisory Patent Examiner, Art Unit 1797